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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,495	10/24/2003	Abhijeet Gole	5693P029	1876

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EXAMINER

VO, THANH DUC

ART UNIT PAPER NUMBER

2189

DATE MAILED: 10/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/692,495	<b>Applicant(s)</b> GOLE ET AL.	
	<b>Examiner</b> Thanh D. Vo	<b>Art Unit</b> 2189	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 July 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-20 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. This Office Action is responsive to the application filed on October 24<sup>th</sup>, 2003.

Claims 1-20 are presented for examination.

Claims 1-20 are pending.

The IDS filed on October 24<sup>th</sup>, 2003 has been considered.

### ***Drawings Objections***

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because several items in figures 1, and 4-7 are missing the descriptive labels.

Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

3. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 6, 8, 15, 17, and 18 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims 1, 2, 6, 8, 17, 18, and 20 have the functions of "receiving", "transmitting", "writing", "sending", "assigning", "applying", and allowing which are required to have a mean to support each of the functions.

As per claims 3 and 15 are vague and failing to point out the subject matter which applicant claims as the invention.

As per claims 17 and 18, the phrase, "writing the [second] access request to a file ... the access request from the second memory" is vague and indefinite. The limitation contains multiple indefinite functions, which are contradicting with each other.

Applicants are required to amend the claims so that they are clear and concise.

Claim 20 recites the limitation "first filer". There is insufficient antecedent basis for this limitation in the claim. The limitation should be written as "source filer".

***Claim Objections***

3. Claim 11 is objected to as it failed to further limit claim 10 even though there is a slight different in wording.

Applicants are required to 1) cancel the objected to claims, (2) amend the claims so that it is further limit claim 10, or (3) provide sufficient reasons why the claims as present is written substantially further limit claim 10.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1, 4, and 7-16 are rejected under 35 U.S.C. 102(a) as being anticipated by Yanai et al. (US Patent 6,502,205).

As per claim 1, Yanai et al. disclosed a method for mirroring data comprising:  
a first storage server (Fig. 1, item 14) receives a data access request from a client (Fig.1, item 12) coupled to the first storage server 14. See col. 2, lines 60-67.

transmitting the access request to a second storage server (Fig. 1, item 46). See col. 2, lines 54-59.

writing the access request to a data container (Fig. 1, items 50a-c) corresponding to the first storage server 14 on the second storage server 46. See col. 2, lines 60-67.

5. As per claim 4, Yanai et al. disclosed a method comprising:

    sending an acknowledgment from the second storage server 46 to the first storage server 14 in response to receiving the access request. See col. 10, lines 19-24.

    sending a response from the first storage server 14 to the client 12 in response to receiving the acknowledgement and after the access request has been stored on the first storage server 14 and stored in the data container (Fig. 1, item 22a-c). See col. 10, lines 22-24.

6. As per claim 7, Yanai et al. disclosed a method wherein transmitting the access request comprises transmitting the access request from the first storage server 14 to the second storage server 46 over a network (Fig. 1, item 40). See col. 13, lines 8-23.

7. As per claim 8, Yanai et al. disclosed a method comprising:

    assigning a sequence number to the access request, wherein the sequence number designates a position of the access request in a group of access requests to ensure that the access request is properly ordered within the data container. See col. 18, lines 45-54; and col. 19, lines 28-35.

8. As per claims 9, Yanai et al. disclosed the data file wherein containing only one version of the data at any given location or track. See col. 32, lines 34-49.

9. As per claim 10, Yanai et al. disclosed an apparatus comprising:

a destination storage server 46 mirror data stored by a source storage server.

See col. 7, lines 40-46.

a network interface on the destination storage server coupled to the source storage server (see col. 8, lines 30-34), the network interface to receive a data access request from a client 12 coupled to the source storage server 14 (see col. 7, lines 50-54); and

wherein the destination storage server 46 is configured to write the data access request to a data container corresponding to the source storage server 14. See col. 10, lines 15-24.

10. As per claim 11, Yanai et al. disclosed an apparatus wherein the first and second storage servers are coupled together by a network through the network interface. See col. 8, lines 30-34.

11. As per claim 12, Yanai et al. disclosed an IBM ESCON network where TCP/IP is an inheritance feature of the ESCON system. See col. 13, lines 6-20.

12. As per claim 13, Yanai et al. disclosed an apparatus comprising:

a memory (Fig. 1, item 64) on the destination storage server 46 to receive the access request, see col. 9, lines 36-40.

the data container is written to a nonvolatile mass storage device (Fig. 1, item 48) coupled to the destination storage server 46 when the memory is full. See col. 10, lines 52-59.

13. As per claim 14, Yanai et al. disclosed a memory comprises a nonvolatile random access memory. See col. 18, lines 1-10.

14. As per claims 15, Yanai et al. disclosed a method comprising:

the second storage server 46 receiving a synchronization request from the first storage server 14. See col. 10, lines 15-29, and

using the access request to update an image on a second nonvolatile mass storage device coupled to the second storage server. See col. 10, lines 15-29; and col. 15, line 35 – col. 16, line 19.

15. As per claims 16, Yanai et al. disclosed the data file wherein containing only one version of the data at any given location or track. See col. 32, lines 34-49.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 5, and 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yanai et al (US 6,502,205) in view of March et al. (US 2003/0023828).

16. As per claim 2 and 5, Yanai et al. disclosed a method wherein writing further comprises:

writing the access request to a memory (Fig. 1, item 64) on the second storage server 46 (**memory portion**), and transferring the access request to the data container 50a-c on a nonvolatile mass storage device (Fig. 1, item 48) coupled to the second storage server 46 when the memory is full. See col. 9, lines 36-45; and col. 10, lines 45- 59.

Yanai et al. failed to disclose that when the memory is full, transfer the access request to the data container.

March et al. disclosed a method of memory partition in a data storage system where the data will be allocated to a file system when the first memory partition is full. See Detailed Description, page 4 paragraph 0040.

Yanai et al. and March et al. are analogous art because they are from the same field of the endeavor, which is the data storage system.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to transfer data from a portion of a memory or cache to a file system when the memory or the cache is full.

The motivation for doing so would reduce the latency and lost of data due to the data overflow while the incoming data waiting for the memory to be emptied.

Therefore, it would have been obvious to one having ordinary skill in the art to modify the system of Yanai et al. to use the method taught by March et al. to obtain a method as claimed in claim 2 and 5.

17. As per claims 3, Yanai et al. disclosed a method comprising:

the second storage server 46 receiving a synchronization request from the first storage server 14. See col. 10, lines 15-29, and

using the access request to update an image on a second nonvolatile mass storage device coupled to the second storage server. See col. 10, lines 15-29; and col. 15, line 35 – col. 16, line 19.

18. As per claim 6, Yanai et al. disclosed a method of updating the first storage server using the access request in response to the synchronization request. See col. 10, lines 15-27.

Yanai et al. failed to disclose a method of writing the access request to a second memory on the first storage server upon receiving the access request.

March et al. disclosed a method of memory partition where it divides the memory into multiple blocks where each allocated block is capable of receiving writing an access request from the host to a determined block. See page 4 of Detailed Description, paragraph 0039-0040.

Yanai et al. and March et al. are analogous art because they are from the same endeavor, which is the data storage system.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to realize the advantage of having a multiple memory location to store data. The motivation for doing so would reduce the amount of rotational latency and seek time required to access files from the same file system, which can potentially improve computer system performance.

Therefore, it would have been obvious to one having ordinary skill in the art to modify the system of Yanai et al. to use the method taught by March et al. to obtain a method as claimed in claim 6.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanai et al. (US 6,502,205).

20. As per claims 17 and 18, Yanai et al. disclosed a method comprising:

Receiving a [second] data access request from a client 12 coupled to a source filer (Fig. 1, item 16). See col. 2, line 60 - col. 3, line 9.

writing the [second] access request to a first memory 28 coupled to the source filer 16. See col. 7, line 67- col. 8, line 6.

transmitting the **[second]** access request to a destination filer through a network.

See col. 13, lines 7-23.

sending a(n) **[second]** acknowledgement to the source filer in response to the destination filer receiving the access request. See col. 10, lines 15-24.

writing the **[second]** access request to a **file** (claim 16) corresponding to the source filer 16. See col. 10, lines 51-55.

wherein writing the **[second]** access request to a file (claim 16) includes: writing the access request to a second memory (Fig. 1, item 50b) coupled to the destination filer. See col. 10, lines 51-55.

transferring the **[second]** access request to a volume coupled to the destination filer (see col. 10, lines 59-64), and removing the access request from the second memory

sending a **[second]** response to the client 12 to indicate receipt of the data access request. See col. 10, lines 23-24.

Although Yanai et al. failed to disclosed a method of removing the **[second]** access request from the second memory but it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to remove the temporary data file stored in a memory once the data file is safely written into the secondary storage system.

21. As per claim 19, Yanai et al. disclosed a method comprising:

connecting the second filer 44 to the client 12 in response to a system failure.

See col. 26, lines 53-55.

Although Yanai et al. failed to mention that the client can access the second filer but it would have been obvious to one of ordinary skill in the art at the time of applicant's invention that the client (host) is having the primary motivation to access the backup data from the second filer. Therefore, it would have been obvious that the client (host) is connected to the second filer (secondary controller) in response to a system failure.

22. As per claim 20, Yanai et al. disclosed a method comprising:

applying the access request to an image of a volume maintained by the source filer 12 and allowing the client 12 to access the image. See col. 17, lines 25-40.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh D. Vo whose telephone number is (571) 272-0708. The examiner can normally be reached on M-F 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Kim can be reached on (571) 272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

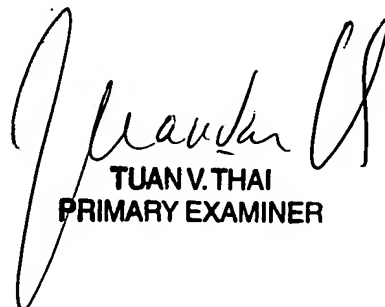
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10/14/2005



Thanh D. Vo

Patent Examiner



**TUAN V. THAI**  
**PRIMARY EXAMINER**